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\*Encrypter\* e.g. for public key cryptosystem

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Patent Family:

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EP 924895	A2	19990623	EP 98123917	A	19981216	H04L-009/30	199930 B
JP 11174955	A	19990702	JP 97347613	A	19971217	G09C-001/00	199937
JP 11231774	A	19990827	JP 9831561	A	19980213	G09C-001/00	199945
CA 2256179	A1	19990617	CA 2256179	A	19981216	H04L-009/30	199949

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Patent Details:

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Abstract (Basic): EP 924895 A2

NOVELTY - The \*encrypter\* has an exponent generator to generate an exponent by combining an input plaintext  $m$  and a \*random\* \*number\*  $r$ . An exponentiating device \*generates\* a ciphertext by exponentiating a \*second\* public \*key\*  $g$  with the exponent in a modular- $n$  reduced residue class group, where the  $n$  is a first public key which is a composite number.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a decryption device for a public key cryptosystem, a recording medium on which there is recorded a program for executing an \*encryption\* process of an \*encryption\* device through the use of two public keys  $n$  and  $g$ , a recording medium on which there is recorded a program for executing a decryption process of an \*encryption\* device through the use of two public keys  $n$  and  $g$ , a recording medium on which there is recorded a program for executing an \*encryption\* process of an \*encryption\* device which uses an elliptic curve over a modular- $n$  residue ring where the  $n$  is obtained by the Chinese remainder theorem from a public key, an elliptic curve  $E_p$  over a finite field  $F_p$  having a number  $p$  of  $F_p$ -rational points and an elliptic curve  $E_q$  over a finite field  $F_q$  having a number  $q$  of  $F_q$ -rational points, and a recording medium on which there is recorded a program for executing a decryption process of a decryption device for decrypting an input ciphertext  $C$ , where let  $p$  be an odd prime larger than 5,  $E_p$  be an elliptic curve over a finite field  $F_p$  and having a number  $p$  of  $F_p$ -rational points, its two  $F_p$ -rational points be non infinite points  $G_p$  and  $C_p$  and  $\lambda (GP) - 1 \bmod p$  be a